Amendments to the Claims:

This listing of claims replaces all prior listings, and versions, of claims in the present application.

Listing of Claims:

1. (Currently amended) A receiver circuit for adjusting the headroom for a received signal in a radio receiver, the received signal including a target signal and an interference signal, the circuit comprising:

an amplifier coupled with the received signal such that the amplifier outputs an amplified signal, the amplification level of the amplifier being set by an amplifier control signal;

an analog-to-digital converter coupled with the amplified signal, the analog-to-digital converter outputting a digital signal wherein the digital signal is a digital representation of the amplified signal;

a first digital filter having a first filter input coupled with the digital signal, the first digital filter filters the digital signal at a first interference attenuation factor to produce a first filter output, the first filter output comprising ~~coupled with~~ the amplifier control signal, the first filter output being proportional to the magnitude of the interference signal when the interference signal is greater in magnitude than the target signal thereby to cause the amplification level set by the amplifier to be proportional to the magnitude of the interference signal; and

a second digital filter having a second filter input coupled with the first filter output ~~digital signal~~, the second digital filter filters the ~~digital signal~~ first filter output at a second interference attenuation factor,

2. (Original) The receiver circuit of claim 1, wherein the first digital filter and the second digital filter are low-pass digital filters.

3. (Original) The receiver circuit of claim 1, wherein the first digital filter and the second digital filter are arranged in series circuit such that the first filter output is coupled with the second filter input.

4. (Currently amended) The receiver circuit of claim 1, wherein the ~~first digital filter and the second digital filter are arranged in parallel circuit~~ amplification level of the amplifier is algebraically related to the amplifier control signal.

5. (Currently amended) The receiver circuit of claim 1, wherein the amplification level of the amplifier is ~~an automatic gain control amplifier~~ linearly proportional to the amplifier control signal.

6. (Original) The receiver circuit of claim 1, wherein the analog-to-digital converter is a sigma-delta analog-to-digital converter.

7. (Original) The receiver circuit of claim 1, wherein the first filter output is proportional to the magnitude of the target signal when the target signal is greater in magnitude than the interference signal.

8. (Currently amended) The receiver circuit of claim 1, wherein the second ~~attention~~ attenuation factor is greater than the first attenuation factor.

9. (Currently amended) A method for adjusting the headroom for a received signal in a radio receiver, the received signal including a target signal and an interference signal, the method comprising:

amplifying the received signal at an amplification level to form an amplified signal;

converting the amplified signal to a digital signal;

digitally filtering the digital signal at a first interference attenuation factor to produce a first filter output proportional to the magnitude of the interference signal when the interference signal is greater in magnitude than the target signal;

adjusting the amplification level ~~of~~ at which the received signal is amplified based on the first digital filter output such that the difference between the maximum possible digital signal and the amplified signal is decreased when the interference signal is greater than the target signal and thereby to cause the amplification level to be proportional to the magnitude of the interference signal; and

digitally filtering the digital signal at a second interference attenuation factor.

10. (Original) The method of claim 9, further comprises digitally filtering the digital signal at the first interference attenuation factor such that the first filter output is proportional to the magnitude of the target signal when the target signal is greater in magnitude than the interference signal.

11. (Currently amended) The method of claim 9, wherein the second interference ~~attention~~ attenuation factor is greater than the first interference attenuation factor.

12. (Currently amended) A system for adjusting the headroom for a received signal in a radio receiver, the received signal including a target signal and an interference signal, the system comprising:

an amplification module for amplifying the received signal at an amplification level to form an amplified signal;

a conversion module for converting the amplified signal to a digital signal;

a first filtering module for digitally filtering the digital signal at a first interference attenuation factor to produce a first filter output proportional to the magnitude of the interference signal when the interference signal is greater in magnitude than the target signal;

an adjusting module for adjusting the amplification level of the received signal based on the first ~~digital~~ filter output such that the difference between the maximum possible digital signal and the amplified signal is decreased when the interference signal is greater than the target signal and thereby to cause the amplification level at which the amplification module amplifies the received signal to be proportional to the magnitude of the interference signal; and

a second filtering module for digitally filtering the ~~digital~~ first filter output signal at a second interference attenuation factor.

13. (Original) The system of claim 12, wherein the first filtering module and the second filtering module are low pass digital filters.

14. (Original) The system of claim 12, wherein the first filtering module and the second filtering module are arranged in series circuit such that the first filter output is coupled with the second filter input.

15. (Currently amended) The system of claim 12, wherein the ~~first filtering module and the second filtering module are arranged in parallel circuit~~ amplification level at which the amplification module amplifies the received signal is algebraically related to the first filter output.

16. (Currently amended) The system of claim 12, wherein the amplification level at which the amplification module ~~is an automatic gain control amplifier~~ amplifies the received signals is linearly related to the first filter output.

17. (Currently amended) The system of claim 12, wherein the digital signal provided by the conversion module ~~is an analog-to-digital converter~~ comprises a binary coded decimal signal.

18. (Original) The system of claim 17, wherein the analog-to-digital converter is a sigma-delta analog-to-digital converter.

19. (Currently amended) The system of claim 12, wherein the second interference ~~attention~~ attenuation factor is greater than the first interference attenuation factor.

20. (Original) The system of claim 12, wherein the first filter output is proportional to the magnitude of the target signal when the target signal is greater in magnitude than the interference signal.